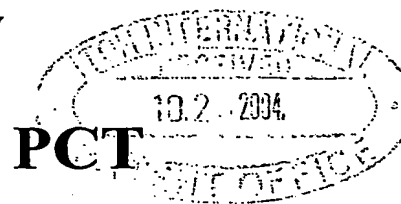


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

ITO H Tadahiko

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Yebisu Garden Place Tower,
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1506032**

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

19.10.2004

Applicant's or agent's file reference

R04070PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/009694

International filing date (day/month/year)

01.07.2004

Priority date (day/month/year)

04.07.2003

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. **G05F 1/56**

Applicant

RICOH COMPANY, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Japan Patent Office

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

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3V

2917

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/009694

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/ 009694

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>4 - 7, 9 - 11</u>	YES
	Claims	<u>1 - 3, 8</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1 - 11</u>	NO
Industrial applicability (IA)	Claims	<u>1 - 11</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations

<The following document has been considered for the purpose of this report:>

D1 = US 5861771 A(FUJITSU LTD.) 19.01.1999

D2 = JP 2002-270781 A(RICOH COMPANY, LTD.) 20.09.2002

D3 = EP 1128532 A2(FUJITSU LTD.) 29.08.2001

D4 = JP 2000-284843 A(FUJI ELECTRIC CO.,LTD.) 13.10.2000

D5 = JP 5-61556 A(MATSUSHITA ELECTRIC IND.) 12.03.1993

D6 = US 5777517 A(TOSHIBA CORP.) 07.07.1998

D7 = US 2002/0163385 A1(SEIKO EPSON CORP.) 07.11.2002

D8 = JP 2001-92544 A(TOSHIBA CORP., TOSHIBA MICROELECTRONICS CORP.)
06.04.2001

D9 = JP 57-128053 A(HITACHI LTD.) 09.08.1982

The subject matter of claim 1-3 does not meet the requirement of novelty. D1 discloses a product consisting of
a high-breakdown-voltage regulator,
a reference voltage generating circuit configured to receive an output voltage from the high-breakdown-voltage reguretor,
a differential amplifier circuit configured to receive an output voltage from the high-breakdown-voltage reguretor,
in the present Claim 1-3.

The subject matter of claim 4,5 does not appear to involve an inventive step in view of D1 and D2.

Technical features an output transistor (63) and a DMOS transistor (5) with a diode (11), disclosed in D1 and D2 respectively, have the same function and are related to similar technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature a DMOS transistor with a diode in D2 to substitute the feature an output transistor disclosed in D1.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **BOX No. V**

The subject matter of claim 6 does not appear to involve an inventive step in view of D1 and D3.

Technical features an output transistor (63) and a P channel MOSFET transistor (19) with a constant current inverter, disclosed in D1 and D3 respectively, have the same function and are related to similar technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature a P channel MOSFET transistor with a constant current inverter in D2 to substitute the feature an output transistor disclosed in D1.

The subject matter of claim 7 does not appear to involve an inventive step in view of D1, D3 and D4.

D4 discloses the constant current inverter comprising a MOS transistor to which the reference voltage generated by the reference voltage generator is supplied.

The subject matter of claim 8 does not meet the requirement of novelty.

D5 discloses a product consisting of a constant current circuit inserted between a power supply line and a combination of the reference voltage generating circuit and the differential amplifier circuit.

The subject matter of claim 9,10 does not appear to involve an inventive step in view of D5 and D6.

D6 discloses the constant current circuit structured by a depression-mode MOS transistor or an enhancement-mode MOS transistor.

The subject matter of claim 11 does not appear to involve an inventive step in view of D5, D6 and D7.

D7 discloses the constant current circuit structured by multiple MOS transistors connected in series to form a multi-stage constant current circuit.